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UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte MARK JAMES KLINE, DONALD CARROLL, and
ANN MARIE SULLIVAN

Appeal 2008-4254¹
Application 09/778,687
Technology Center 3700

Decided:² February 12, 2009

Before DEMETRA J. MILLS, RICHARD M. LEBOVITZ, and
FRANCISCO C. PRATS, *Administrative Patent Judges*.

PRATS, *Administrative Patent Judge*.

¹ Oral argument heard January 15, 2009.

² The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to a device for aiding in changing external articles, such as disposable diapers. The Examiner has entered three rejections for anticipation. We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

STATEMENT OF THE CASE

The Specification discloses “active external change aids which assist in the application or removal (i.e., changing) of articles worn external to the wearer’s body including incontinence devices and absorbent articles such as colostomy bags, diapers, sanitary napkins, panty liners, bandages, body wraps, and the like” (Spec. 3). The external change aids typically have at least “one effect generating element” that assists in applying or removing the article (*id.* at 4).

“The effect generating element may either move a portion of the article, hold a portion of the article in a generally prescribed position, or transform at least a portion of the article in order to change the physical properties of the article” (*id.*). One disclosed example of an effect generating element that transforms the physical properties of a worn article is a device with a thermal cell that acts on an adhesive on a worn article, the adhesive being tacky at higher temperatures and non-tacky at lower temperatures (*id.* at 10). Thus, “[b]y actively varying the tackiness of the adhesive, a caregiver can avoid unintentional and erroneous fastening of the fastener and allow for the use of stronger fastener adhesives at normal room temperatures than would otherwise be practical” (*id.*)

Claims 19 and 21-25 stand rejected and appealed (App. Br. 1).³

Claim 19 is representative and reads as follows:

19. A changing aid comprising a mat and at least one effect generating mechanism joined to the mat, the effect generating mechanism being adapted to transform at least a portion of an article adapted to be worn externally on a body of a wearer from a first condition to at least one second condition by changing a size, a thickness, an absorbency, a breathability, a flexibility, a rigidity, an elasticity, or a tackiness of the portion of the article or by making a connection between the portion of the article and another portion of the article or by activating or deactivating an adhesive during an application of the article onto the body or a removal of the article from the body to thereby assist in the application or the removal.

The Examiner applies the following documents in rejecting the claims:

Shaw	US 2,681,032	Jun. 15, 1954
Deagan	US 5,566,398	Oct. 22, 1996
Glaug	US 5,797,892	Aug. 25, 1998

The following rejections are before us for review:

Claims 19, 21, 23, and 24 stand rejected under 35 U.S.C. § 102(b) as anticipated by Deagan (Ans. 3-4).

Claims 19 and 25 stand rejected under 35 U.S.C. § 102(b) as anticipated by Shaw (Ans. 4).

Claims 19, 21, and 22 stand rejected under 35 U.S.C. § 102(b) as anticipated by Glaug (Ans. 4).

³ Appeal Brief filed July 24, 2007.

ANTICIPATION -- DEAGAN

ISSUE

The Examiner finds that Deagan anticipates claim 19 because the reference discloses “a changing aid, as shown in figure 4, comprising a mat 20 and an effect generating mechanism 24, 40 joined to the mat 20 by means 26. The effect generating mechanism 24, 40 comprises an air jet” (Ans. 3). The Examiner notes that “[w]hen the effect generating mechanism 24, 40 is activated, it moves an article 12 that is worn externally on a body of a wearer, thereby transforming the ar[t]icle, to assist in the removal of the article 12, as shown in figures 1 and 2” (*id.*).

Appellants argue that the Examiner erred in finding that Deagan anticipates claim 19 because “[t]he inflation of the *bladder 24* merely moves Deagan’s *helmet 12*. It does not transform the *helmet 12*. More specifically, the inflation of the *bladder 24* clearly does not cause any of the transformations recited explicitly in the Markush group” of claim 19 (App. Br. 5).

The Examiner responds that “[s]ince the bladder reduces the interior volume of the helmet by inflating and occupying the interior volume, the bladder reduces, or changes, the size of the helmet. Inflating the bladder transforms the helmet to a smaller size, which aids in the removal of the helmet from the wearer’s head” (Ans. 5). Therefore, the Examiner reasons, “Deagan fulfills the limitations of the claims” (*id.*).

In view of the respective positions advanced by the Examiner and Appellants, the issue with respect to this rejection is whether the Examiner erred in finding that claims 19, 21, 23, and 24 encompass the device disclosed by Deagan.

FINDINGS OF FACT (“FF”)

1. Claim 19 recites a changing aid that “assist[s] in the application or removal” of an article adapted to be worn externally on the body of a wearer.

The changing aid has two components: (a) a mat, and (b) at least one “effect generating mechanism” joined to the mat.

2. Claim 19 requires the effect generating mechanism to be adapted to transform a portion of an externally wearable article from a first condition to a second condition. The transformation is achieved by changing a size, a thickness, an absorbency, a breathability, a flexibility, a rigidity, an elasticity, or a tackiness of the portion of the article. The transformation may also be achieved by making a connection between a portion of the article and another portion of the article, or by activating or deactivating an adhesive during an application of the article onto the body or a removal of the article from the body.

3. The Specification discloses that when effect generating mechanisms are used to transform an article, they act on “effect receiving elements within the article in order to create a desired transformation of at least a portion of the article. The active external change aid’s effect generating element transforms, activates, or deactivates the effect receiving element in the article to enact a change in properties within the article” (Spec. 9). Thus, the effect generating mechanism is characterized in the Specification as part of an “external change element” that acts on the article and is therefore separate from it (*id.* at 2: 25-28).

4. The Specification discloses several embodiments in which the effect generating mechanism acts on effect receiving elements to transform wearable articles. Specifically, the effect generating mechanism can be a

thermal cell, and the effect receiving element can be a temperature sensitive adhesive on a wearable article, the thermal cell acting on the adhesive to assist in removing the article (Spec. 10).

5. The Specification discloses that the effect generating mechanism can be a set of electromagnets that become rigid when current is applied, and are then allowed to act on electromagnets in the wearable article, as the effect receiving element (Spec. 11). Alternatively, “the electromagnets are replaced with inflating or deflating bladders to create motion and/or increase or decrease rigidity. The bladders are operably connected between plates . . . and a system is provided to inflate or deflate the bladders” (*id.*).
6. The Specification discloses that where inflatable structures are used as transforming elements, “the effect receiving elements may . . . be inflatable or deflatable bladders” (Spec. 11-12). Thus,

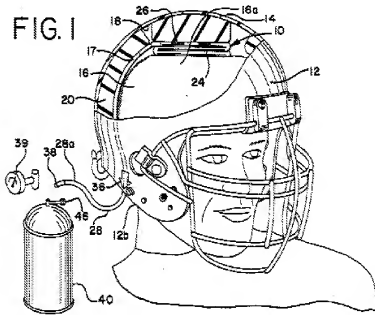
The effect generating element may be connected to the effect receiving element in a manner which allows the effect receiving element to temporarily inflate and to become less flexible (more rigid). When the active external change aid’s effect generating element is turned off or disconnected from the article, the effect receiving element deflates allowing the structure to become more flexible.

(*Id.* at 12.)

7. Deagan discloses “a helmet removal device and method for at least partially removing the head of a wearer from within a helmet so that it can be lifted off without applying force to the wearer’s neck” (Deagan, col. 1, l. 66 through col. 2, l. 2). The device “includes a bladder which may be folded into a collapsed configuration and attached within the interior of a helmet at a location generally corresponding to the top of the head of a wearer” (*id.* at col. 2, ll. 11-14).

When the bladder is inflated, the “increase in size of the bladder caus[es] the bladder to exert opposing forces on the top of the head of the wearer and the adjacent portion of the helmet thereby at least partially displacing the head from within the helmet” (*id.* at col. 2, ll. 22-25).

8. Figure 1 of Deagan is reproduced below:



Deagan's Figure 1 shows helmet 12 with outer shell 14, and “[a]ttached to an inner surface 18 of the shell 14 is padding preferably at least one and typically a plurality of pads 20” (Deagan, col. 3, ll. 1-2). Also seen in Figure 1 is “bladder 24 . . . removably attached to the helmet 12 by adhesive tabs or tape 26” (*id.* at col. 3, ll. 54-55).

9. Deagan discloses that the “bladder 24 is so constructed and arranged that the inflation and expansion of the bladder from the collapsed configuration, as illustrated in FIG. 1, to the expanded configuration, as

illustrated in FIG. 2, at least partially displaces the head 16 from within the helmet 12” (Deagan, col. 3, ll. 12-17).

10. Figure 2 of Deagan is reproduced below:

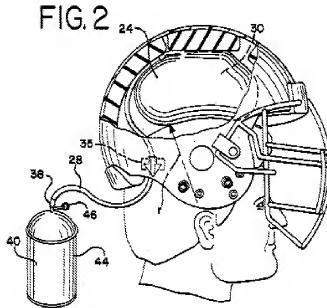


Figure 2 “is a side elevational view with parts broken away of the device of FIG. 1, with a bladder, forming a part of the device, in an expanded configuration” (Deagan, col. 2, ll. 40-42). Figure 2 also shows tube 28, and “[a]ttached to the lower end . . . of the tube 28 is a connector 38 to provide a connection between the tube and a device 40 for inflating the bladder 24. The inflating device 40 may be a canister 44 of pressurized air, a pump or other similar device” (*id.* at col. 4, ll. 16-20).

PRINCIPLES OF LAW

For a reference to anticipate a claim “[e]very element of the claimed invention must be literally present, *arranged as in the claim.*” *Richardson v. Suzuki Motor Co., Ltd.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989) (emphasis added).

“During examination, ‘claims . . . are to be given their broadest reasonable interpretation consistent with the specification, and . . . claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.” *In re American Academy Of Science Tech Center*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (quoting *In re Bond*, 910 F.2d 831, 833 (Fed.Cir.1990)).

However, “while ‘the specification [should be used] to interpret the meaning of a claim,’ courts must not ‘import[] limitations from the specification into the claim.’ . . . [I]t is improper to ‘confin[e] the claims to th[e] embodiments’ found in the specification” *In re Trans Texas Holdings Corp.*, 498 F.3d 1290, 1299 (Fed. Cir. 2007) (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed.Cir.2005), citations omitted, bracketed text in internal quotes in original); *see also Sjolund v. Musland*, 847 F.2d 1573, 1581 (Fed. Cir. 1988) (“[W]hile it is true that claims are to be interpreted *in light of* the specification and with a view to ascertaining the invention, it does not follow that limitations from the specification may be read into the claims.”); *In re Bigio*, 381 F.3d 1320, 1325 (Fed Cir. 2004) (“[A]bsent claim language carrying a narrow meaning, the PTO should only limit the claim based on the specification . . . when [it] expressly disclaims the broader definition.”).

Nonetheless, “[c]laims are not to be read in a vacuum[;] while it is true they are to be given the broadest reasonable interpretation during prosecution, their terms still have to be given the meaning called for by the specification of which they form a part.” *In re Royka*, 490 F.2d 981, 984 (CCPA 1974).

ANALYSIS

We do not agree with the Examiner that claim 19 encompasses Deagan's device when claim 19 is interpreted in a manner consistent with the Specification. Proper examination of the Specification to determine the meaning of the term "effect generating mechanism" in claim 19 shows that the term is used to describe a mechanism that acts on an "effect receiving element" that is part of, or placed on, a wearable article (*see* FF 3-6).

That is, in contrast to the effect receiving element, the effect generating mechanism is not part of the wearable article. The term "effect generating mechanism" in claim 19 therefore does *not*, in our view, encompass apparatuses which are part of a wearable article to be removed or applied.

In the instant case, the Examiner has designated the combination of bladder 24 and inflating device 40 as the effect generating mechanism (Ans. 3; *see also* FF 8-10). However, Deagan's device does not meet the requirements of claim 19 because the bladder portion 24 of the effect generating mechanism is part of the wearable article, the helmet (FF 8, 10). Moreover, as Appellants point out (App. Br. 5), if that combination of elements is considered the effect generating mechanism, then the actual effect produced is the movement of the helmet, which is not one of the transformed properties recited in claim 19.

The Examiner urges that because the bladder is inflated, the interior of the space in the helmet is decreased, thereby decreasing the effective size of the helmet, and meeting claim 19's requirement of changing the size of the article (Ans. 5). We are not persuaded by this argument.

We note that the Specification discloses embodiments in which an inflated bladder in a wearable article is considered to effect a change in the rigidity of the article (*see* FF 5, 6). In those embodiments, however, the bladder is considered to be an effect *receiving* element rather than the effect *generating* element (FF 6).

Thus, in the instant case, applying the terminology used in the Specification, Deagan's bladder 24 corresponds to an effect receiving element, and the inflation device 40 corresponds to the effect generating mechanism. As can be seen in Deagan's Figures 1 and 2, the inflating device 40, or effect generating mechanism, is joined to the bladder by tube 28, but is not joined to the pad 20, designated by the Examiner as being the mat of claim 19 (*see* FF 10).

In contrast, claim 19 requires the effect generating mechanism to be "joined to the mat." Thus, while Deagan's helmet removal device may contain elements analogous to those recited in claim 19, those elements are not arranged in the manner recited in the claim, as required for a finding of anticipation.

In sum, we agree with Appellants that the Examiner erred in finding that claim 19 encompasses the device disclosed by Deagan, when the claim is interpreted consistently with the Specification. We therefore reverse the Examiner's rejection of claim 19 and its dependent claims 21, 23, and 24 as being anticipated by Deagan.

ANTICIPATION -- SHAW

ISSUE

Claims 19 and 25 stand rejected under 35 U.S.C. § 102(b) as anticipated by Shaw (Ans. 4). The Examiner's rejection reads as follows:

Shaw discloses a changing aid comprising a mat 15 and an effect generating mechanism 18 joined to the mat 15, as shown in figure 3. The effect generating mechanism transforms a portion of the article by facilitating contraction of the mat 15 to allow for a connection between a first portion, signal 20, and a second portion, opening 21, as shown in figure 4. The indication of wetness of the diaper assists in the removal process of the article.

(*Id.*)

Appellant argues that the rejection confuses the changing aid and the article on which the changing aid acts (App. Br. 10), and “also confuses two fundamental concepts, namely making a connection between two structural elements, on the one hand, and aligning two structural elements, on the other hand” (*id.* at 11).

In view of the respective positions advanced by the Examiner and Appellants, the issue with respect to this rejection is whether the Examiner erred in finding that claims 19 and 25 encompass the device disclosed by Shaw.

FINDINGS OF FACT

11. Shaw discloses an “accessory for infants’ diapers” which is “an extremely simplified device for visibly indicating a condition of dampness of said diapers” (Shaw, col. 1, ll. 1-4).

12. Figure 1 of Shaw is reproduced below:



Figure 1 shows Shaw's elongated device 10 placed within a baby's diaper 25.

13. Figures 2-4 of Shaw are reproduced below:

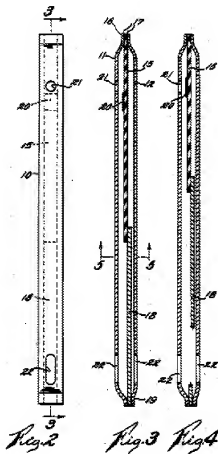


Figure 2 shows “a front elevational view of the accessory. Fig. 3 is a section taken on line 3-3 of Fig. 2. Fig. 4 is a section like Fig. 3 showing the parts of the accessory in indicating position” (Shaw, col. 1, ll. 22-25).

14. Shaw discloses that the device contains “a resilient member 15 such as a rubber band,” the upper end of the resilient member being fastened to the top of the device and the lower end being fastened to “frangible means 18 which preferably takes the form of a strip of paper” which is securely

fastened to the lower end of the device (Shaw, col. 1, l. 47, through col. 2, l. 3).

15. Shaw discloses:

[T]he frangible means **18** normally holds the resilient member **15** under tension in a longitudinally stretched condition such that an indicator **20** formed in the face of the rubber band is out of registry with a visible reference element **21** on the upper part of the base member which takes the form of an aperture extending through the upper end of the side wall **11** of the said base member.

(Shaw, col. 2, ll. 4-12; *see also* Figure 3).

16. Shaw discloses that when the device is placed in an infant's diaper, and moisture passes through slot 22, the frangible means 18 ruptures, thereby allowing the stretched resilient member 15 to move upward, placing the indicator section 20 adjacent to aperture 21, thereby making the indicator section visible through the aperture 21 (Shaw, col. 2, ll. 23-37).

Shaw states that “[i]t is contemplated that the indicator **20** be of a contrasting color with respect to the exterior face of the side **11** so that the presence of the indicator beneath the aperture **21** will provide a visible signal indicating that the infant's diaper is wet and requires attention” (*id.* at col. 2, ll. 32-37).

ANALYSIS

We do not agree with the Examiner that claim 19 encompasses Shaw's device. The Examiner finds that Shaw's frangible means 18 corresponds to the effect generating mechanism 18 (Ans. 4; *see also* FF 13-15). The Examiner reasons that the “effect generating mechanism transforms a portion of the article by facilitating contraction of the mat 15 to

allow for a connection between a first portion, signal 20, and a second portion, opening 21, as shown in figure 4” (*id.*).

However, as discussed above, when claim 19 is interpreted in a manner consistent with the Specification, the term “effect generating mechanism” in claim 19 does *not* encompass apparatuses which are part of a wearable article to be removed or applied. In the instant case, if the wearable article that is transformed is Shaw’s device, as the Examiner appears to find, Shaw fails to meet the requirements of claim 19, because the device is therefore a part of the wearable article (*see* FF 13-15).

Moreover, even if the diaper is considered to be the wearable article, frangible means 18 does not transform the diaper in any of the ways recited in claim 19. Thus, regardless of whether the diaper or Shaw’s device is considered to be the wearable article recited in claim 1, we agree with Appellants that the Examiner has not shown that Shaw discloses a device having all of the elements of claim 19, in the claimed arrangement.

We therefore reverse the Examiner’s rejection of claim 19, and its dependent claim 25, as anticipated by Shaw.

ANTICIPATION -- GLAUG

ISSUE

Claims 19, 21, and 22 stand rejected under 35 U.S.C. § 102(b) as anticipated by Glaug (Ans. 4). The Examiner cites Glaug as disclosing “a changing aid comprising a mat 62 and an effect generating mechanism 64 joined to the mat 62, as shown in figure 3, which are comprised in an article to be worn externally on the body of a wearer” (*id.*).

The Examiner reasons that the effect generating mechanism 64 “transforms the article by changing the thickness and absorbency of the

article, as disclosed in column 4, lines 25-29 . . . [and] assists in the removal of the article by signaling to the wearer that urination has occurred, as disclosed in column 1, lines 21-35” (*id.*). The Examiner notes that “[t]he effect generating mechanism produces a thermal effect, as disclosed in column 8, lines 51-64” (*id.*).

Appellants contend that the Examiner erred in finding that Glaug anticipates claim 19 because, “[a]lthough the temperature change substance 64 of Glaug may have an effect as to when a wearer may desire to have a diaper removed, the temperature change substance 64 does not ‘assist in the removal’ of a diaper” as required by claim 19 (Reply Br. 5).

In view of the respective positions advanced by the Examiner and Appellants, the issue with respect to this rejection is whether the Examiner erred in finding that Glaug meets all of the limitations of claim 19, in particular the limitation requiring the changing device to “assist in the application or removal” of an article adapted to be worn externally on the body of a wearer.

FINDINGS OF FACT

17. Glaug discloses “a pad that can be positioned in a child’s garment at selected times to enhance the toilet training process by providing an indication of when urination occurs to the child” (Glaug, col. 1, ll. 11-14). Glaug discloses that, in certain embodiments, “[t]he toilet training aid may provide the wearer with a cool or warm sensation, a wet sensation, an expanding or contracting dimensional change sensation, or some combination of temperature, wet, and dimensional sensations to signal to the child that urination is occurring” (*id.* at col. 2, ll. 26-31).

18. Figure 3 of Glaug, reproduced below, shows a transverse section of Glaug's device, "but with the components of the toilet training aid separated from one another to better illustrate the invention" (Glaug, col. 2, ll. 54-57):

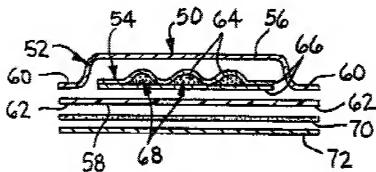


FIG. 3

Figure 3 shows "pad 50 . . . [which] is adapted to provide the wearer with a noticeable warm or cool sensation and a noticeable wet sensation, which facilitate recognition by the wearer that urination is occurring" (Glaug, col. 5, ll. 21-24). Figure 3 also shows "temperature change member 54 [which] desirably includes a temperature change substance 64 that, in the illustrated embodiments, is in the form of particles captured between a pair of containment layers 66" (*id.* at col. 8, ll. 36-39).

19. Glaug states:

The temperature change substance 64 is responsive to contact with an aqueous solution such as urine to either absorb or release heat. The mechanism by which this is accomplished is the dissolution of the substance in the aqueous solution, the swelling of the substance in the aqueous solution, or the reaction of the substance in the aqueous solution. In particular embodiments, the temperature change substance 64 is a particle which has a substantial energy difference between a dissolved state and a crystalline state, so that energy in the form of heat is absorbed or released to the environment upon contact with

urine. In other embodiments, the temperature change substance **64** releases or absorbs energy during swelling or reacting of the substance in an aqueous solution.

(Glaug, col. 8, ll. 51-64.)

PRINCIPLES OF LAW

“It is well settled that the recitation of a new intended use for an old product does not make a claim to that old product patentable.” *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997).

Thus, functional limitations directed to intended uses in an apparatus claim do not serve to distinguish the claimed apparatus from prior art apparatuses inherently capable of performing the claimed function. *See id.* at 1478-79 (holding that a prior art apparatus meeting all claimed structural limitations was anticipatory because it was inherently capable of performing the claimed function); *see also In re Swinehart*, 439 F.2d 210, 213, (CCPA 1971) (“‘Functional’ terminology may render a claim quite broad . . . [;] a claim employing such language covers *any and all* embodiments which perform the recited function.”).

ANALYSIS

We do not agree with the Examiner that claim 19 encompasses Glaug’s device. Claim 19 recites that the claimed changing aid must “assist in the application or removal” of an article adapted to be worn externally on the body of a wearer.

We note that an intended use recitation is met by a device capable of performing the claimed function. *See Schreiber*, 128 F. 3d at 1478-79; *Swinehart*, 439 F.2d at 213. Thus, the intended use recitation in claim 19

encompasses devices capable of aiding the actual process of applying or removing a wearable article.

In the instant case Glaug's device produces a thermal or swelling effect that notifies the user that urination is occurring (*see* FF 17-19). However, the Examiner has not explained, and we do not see, how notifying the wearer that urination has occurred assists the wearer or caretaker in the actual process of applying or removing the article. We therefore do not agree with the Examiner that it is reasonable to interpret the claim 19 as encompassing Glaug's device.

Moreover, as discussed above, when viewed in light of the Specification, the term "effect generating mechanism" in claim 19 does not encompass apparatuses which are part of the wearable article. In contrast, in the instant case, the effect generating mechanism 64 is part of the worn article (*see* FF 18, 19).

In sum, we agree with Appellants that the Examiner erred in finding that claim 19 encompasses Glaug's device. We therefore reverse the Examiner's rejection of claim 19, and its dependent claims 21, and 22, as anticipated by Glaug.

SUMMARY

We reverse the Examiner's rejection of claims 19, 21, 23, and 24 under 35 U.S.C. § 102(b) as anticipated by Deagan.

We also reverse the Examiner's rejection of claims 19 and 25 as anticipated by Shaw.

We reverse the Examiner's rejection of claims 19, 21, and 22 as anticipated by Glaug.

Appeal 2008-4254
Application 09/778,687

REVERSED

LP

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